What is claimed is:

sub Q2

1. A method for motion compensation adaptive image processing, which processes an image data received from a external source, stores the processed image data and restores the stored data to the received image data, the method comprising the steps of:

analyzing the received image data into image data having relatively high frequency component and relatively low frequency component;

compressing/coding the image data having relatively high frequency component and relatively low frequency component by allocating predetermined bits;

dividing the compressed/coded image data into a value corresponding to relatively high frequency component and a value corresponding to relatively low frequency component; and

decoding the values and restoring the received image data based on the decoded image data.

2. The method of claim 1, wherein the image data is analyzed into the relatively high and low frequency components by Wavelet Transform.

3. The method of claim 1, wherein the image data having relatively low frequency component is analyzed repeatedly into image data having relatively higher and lower frequency components of which frequencies are lower than that of the image data to be analyzed.

4. The method of claim 1, wherein the analyzing step comprises high pass and low pass filtering image data and downsampling the high and low pass filtering image data.

5. The method of claim 1, wherein the compressing/coding step further comprises

a step of outputting a first code corresponding to a lower value corresponding to the analyzed image data having the relatively low frequency component and a second code obtained by coding the result of subtracting the lower value from a higher value corresponding to the analyzed image data having the relatively high frequency component.

6. The method of claim 1, wherein the compressing/coding step further comprisesa step of storing the compressed/coded image data.

7. The method of claim 1, wherein the restored image data is obtained by repeatedly performing the decoding the values as many as the number of coding the analyzed image data.

8. The method of claim 1, wherein the decoding/restoring step further comprises a step of outputting a first code corresponding to a lower value corresponding to the compressed/coded image data having the relatively low frequency component and a second code obtained by coding the result of adding the lower value from a higher value corresponding to the compressed/coded image data having the relatively high frequency component.

9. The method of claim 1, wherein the compressing/coding step compresses and codes the image data of sub-blocks (4 × 1 pel, 32bits) as 24 bits data by coding the image data as following methods of: 1) dividing the sub-blocks into two image data having high frequency components and low frequency components by Wavelet Transform, then coding two image data having two high frequency components by allocating five bits, respectively; 2) coding the first one of the two image data having the low frequency components as eight bits data; and 3) coding the second one of the two image data having the low frequency components as six bits data.

10. An apparatus for motion compensation adaptive image processing, which processes an image data received from an external source, stores the processed image data and restores the stored data to the received image data, the apparatus comprises:

image frame processing unit for processing the received image data as frame unit and outputting the processing image data and a motion vector signal;

image compensating unit for generating a motion compensation information to compensate the received image data based the motion vector signal and outputting it to the image frame processing unit;

image compressing unit for analyzing image data having relatively high frequency component and image data having relatively low frequency components, allocating a predetermined bits into the analyzed image data, and compressing/coding the image data including the allocated bits;

storing unit for compressing/coding image data; and

image restoring unit for decoding the stored compressed/coded image data and restoring the received image data based on the decoded image data.

11. The apparatus of claim 10, wherein the image compressing unit comprises:

filtering unit for filtering the image data received from the image frame processing unit and analyzing image data having high frequency components and low frequency components based on the filtering image data;

high frequency coding unit for coding the image data having high frequency components using a coding table; and

low frequency coding unit for coding the image data having low frequency components using a coding table.

12. The apparatus of claim 11, wherein the high frequency coding unit outputs a code corresponding to a value in the coding table, which indexes the image data having high frequency component.

13. The apparatus of claim 11, wherein the high frequency coding unit outputs a code corresponding to a value indexing a range if the high frequency component is in the range.

14. The apparatus of claim 11, wherein the low frequency coding unit outputs a first code corresponding to a first one of the image data having low frequency components and a second code corresponding to a value indexing a result of subtracting the first one from a previous image data using the coding table.

15. The apparatus of claim 10, wherein the image restoring unit comprises:

filtering unit for dividing the image data stored in the storing unit into the image data having high frequency components and low frequency components; and

decoding unit for decoding the image data having high frequency components and the image data having low frequency components using coding table.

16. The apparatus of claim 15, wherein the decoding unit outputs representative value indexing the image data having high frequency components stored in the storing unit using the coding table, a first value of the image data having first low frequency components as it is, and a value that the first value is added to a second value coded for the image data having second low frequency components according to the coding table.

17. The apparatus of claim 10, wherein the image frame processing unit comprises:

variable length coding unit for receiving the image data and coding the received image data to have variable length;

dequantizing unit for dequantizing the variable length coding image data;

inverse transform unit for inverse discrete cosine transforming the variable length coded image data; and

frame processing unit for processing the inverse discrete cosine transformed image data based on the motion compensation information and outputting the processed image data as a frame unit.

18. The apparatus of claim 10, wherein the image compressing unit comprises:

filtering unit for filtering the received image data having subblocks and analyzing the filtered data into image data having high frequency components and image data having low frequency components;

first coding table for mapping a value of the image data having high frequency components into a index having a range and outputting a code generated after compressing/coding the image data;

subtracting unit for subtracting the image data having the a low frequency components from the image data having a second low frequency components; and

second coding table for mapping the subtracting value into a index having a range and outputting a code coding the image data having low frequency components.

19. The apparatus of claim 10, wherein the image restoring unit comprises:

first decoding table for outputting representative value indexing the image data having high frequency components stored in the storing unit using the coding table;

adding unit for adding a value of the image data having a first low frequency components, and a value of the image data having a second low frequency components; and

second decoding table for outputting a representative value indexing a code corresponding to the image data having the second low frequency components.